

QTLP660C-R Red

QTLP660C-E Orange

QTLP660C-O Yellow-Orange

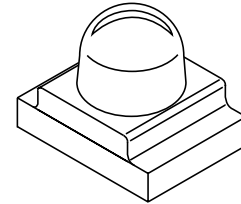
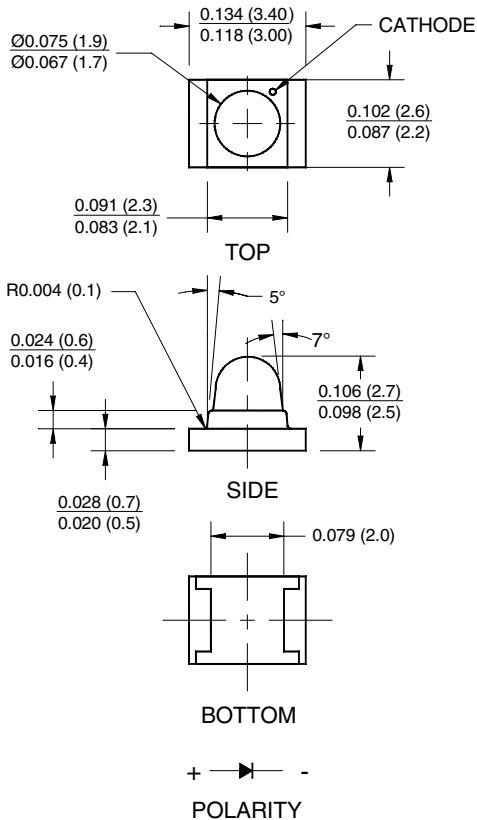
QTLP660C-Y Yellow

QTLP660C-AG Yellow-Green

QTLP660C-IG True Green

QTLP660C-IB Blue

PACKAGE DIMENSIONS



NOTE:

Dimensions for all drawings are in inches (mm).

APPLICATIONS

- Backlighting
- Status indication for consumer electronics and other equipment

DESCRIPTION

These super bright surface mount chip LEDs are designed with a 1.8 mm dome lens that focuses the light output.

FEATURES

- Small footprint - 3.2(L) X 2.4(W) X 2.6(H) mm
- AlInGaP technology for -R, -E, -O, -Y and -AG
- InGaN/SiC technology for -IG and -IB
- Narrow viewing angle of 30°
- Water clear optics
- Moisture-proof packaging
- Available in 0.315" (8mm) width tape on 7" (178mm) diameter reel; 2,000 units per reel

SURFACE MOUNT LED LAMP SUPER BRIGHT 1.8 mm (Dome Lens)

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ABSOLUTE MAXIMUM RATINGS (T_A =25°C Unless otherwise specified)

| Parameter | Symbol | QTLP660C | | | | | Units |
|---|------------------|---------------|-----|-----|-----|-----|-------|
| | | -R | -E | -O | -Y | -AG | |
| Continuous Forward Current | I _F | 30 | 30 | 30 | 25 | 30 | mA |
| Peak Forward Current (f = 1.0 KHz, Duty Factor = 1/10) | I _{FM} | 160 | 160 | 160 | 120 | 160 | mA |
| Reverse Voltage | V _R | 5 | 5 | 5 | 5 | 5 | V |
| Power Dissipation | P _D | 72 | 72 | 72 | 60 | 72 | mW |
| Operating Temperature | T _{OPR} | -40 to +85 | | | | | °C |
| Storage Temperature | T _{STG} | -40 to +90 | | | | | °C |
| Lead Soldering Time | T _{SOL} | 260 for 5 sec | | | | | °C |

ABSOLUTE MAXIMUM RATINGS (T_A =25°C Unless otherwise specified)

| Parameter | Symbol | QTLP660C | | Units |
|---|------------------|---------------|-----|-------|
| | | -IB | -IG | |
| Continuous Forward Current | I _F | 30 | 30 | mA |
| Peak Forward Current (f = 1.0 KHz, Duty Factor = 1/10) | I _{FM} | 100 | 100 | mA |
| Reverse Voltage | V _R | 5 | 5 | V |
| Power Dissipation | P _D | 120 | 120 | mW |
| Operating Temperature | T _{OPR} | -40 to +85 | | °C |
| Storage Temperature | T _{STG} | -40 to +90 | | °C |
| Lead Soldering Time | T _{SOL} | 260 for 5 sec | | °C |

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ELECTRICAL / OPTICAL CHARACTERISTICS (T_A =25°C)

| Part Number | Symbol | QTLP660C | | | | | Condition | |
|-------------------------------|-------------------|----------|----------------|-----|-----|-----|-----------------------|-----------------------|
| | | -R | -E | -O | -Y | -AG | | |
| Luminous Intensity (mcd) | I _v | Minimum | 150 | 150 | 150 | 150 | 110 | I _F = 20mA |
| | | Typical | 400 | 400 | 400 | 400 | 160 | |
| Forward Voltage (V) | V _F | Maximum | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | I _F = 20mA |
| | | Typical | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | |
| Wavelength (nm) | λ _P | Peak | 630 | 620 | 610 | 590 | 575 | I _F = 20mA |
| | | Dominant | λ _D | 624 | 615 | 605 | 589 | |
| Spectral Line Half Width (nm) | Δλ | 20 | 18 | 18 | 15 | 20 | I _F = 20mA | |
| Viewing Angle (°) | 2Θ _{1/2} | 30 | 30 | 30 | 30 | 30 | I _F = 20mA | |

ELECTRICAL / OPTICAL CHARACTERISTICS (T_A =25°C)

| Part Number | Symbol | QTLP660C | | Condition | |
|-------------------------------|-------------------|----------|----------------|-----------------------|-----------------------|
| | | -IB | -IG | | |
| Luminous Intensity (mcd) | I _v | Minimum | 110 | 500 | I _F = 20mA |
| | | Typical | 150 | 900 | |
| Forward Voltage (V) | V _F | Maximum | 4.0 | 4.0 | I _F = 20mA |
| | | Typical | 3.5 | 3.5 | |
| Wavelength (nm) | λ _P | Peak | 465 | 520 | I _F = 20mA |
| | | Dominant | λ _D | 470 | |
| Spectral Line Half Width (nm) | Δλ | 25 | 35 | I _F = 20mA | |
| Viewing Angle (°) | 2Θ _{1/2} | 30 | 30 | I _F = 20mA | |

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TYPICAL PERFORMANCE CURVES (QTLP660C-R, -E, -O, -Y and -AG)

Fig. 1 Forward Current vs. Forward Voltage

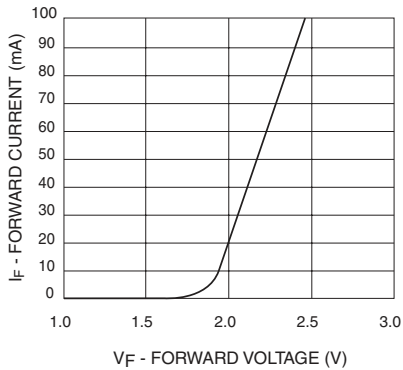


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

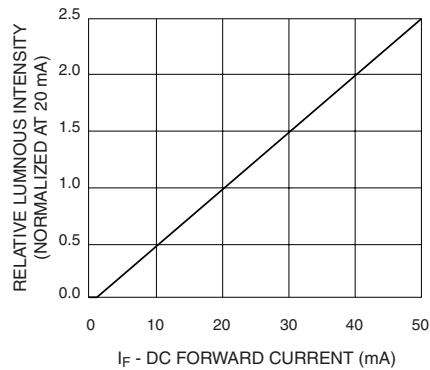


Fig. 3 Relative Intensity vs. Peak Wavelength

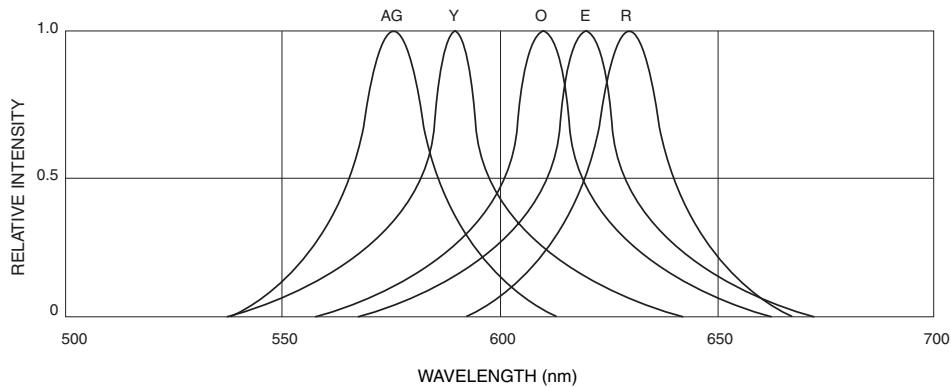


Fig. 4 Radiation Diagram

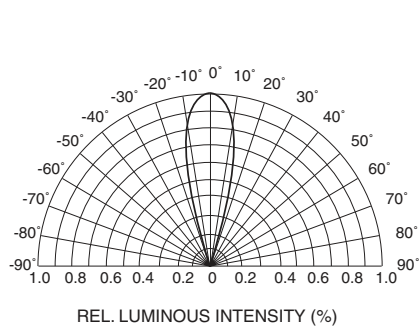
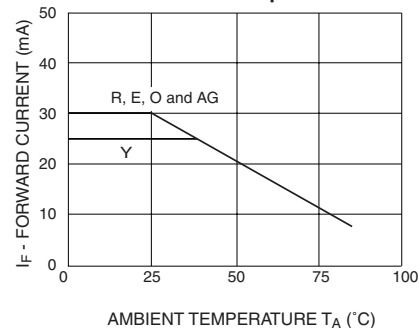


Fig. 5 Maximum Forward Current vs. Ambient Temperature



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TYPICAL PERFORMANCE CURVES (QTLP660C-IG and IB)

Fig. 1 Forward Current vs. Forward Voltage

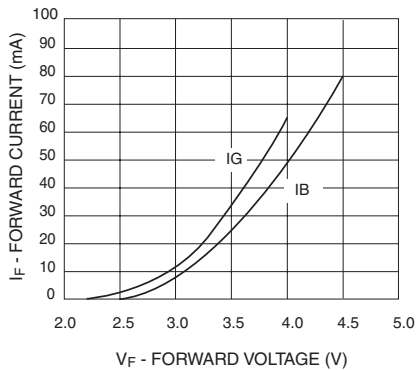


Fig. 2 Relative Luminous Intensity vs. DC Forward Current

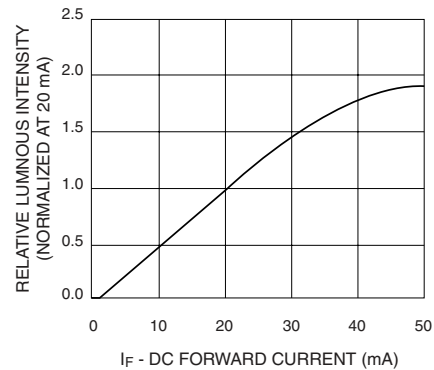


Fig. 3 Relative Intensity vs. Peak Wavelength

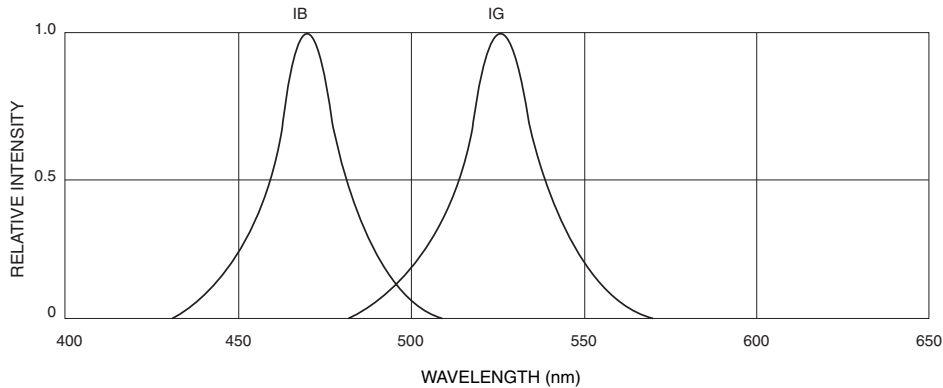


Fig.4 Radiation Diagram

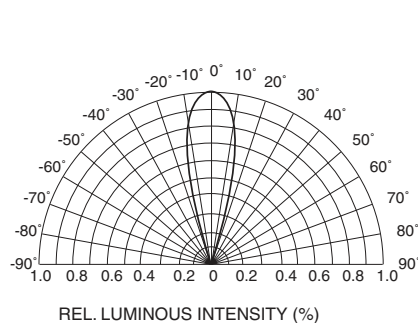
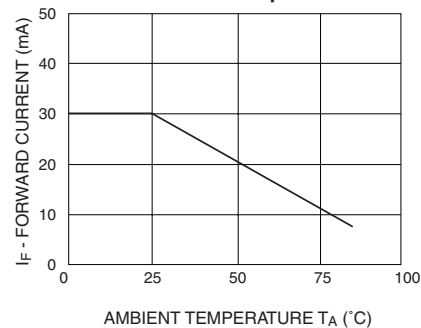


Fig.5 Maximum Forward Current vs. Ambient Temperature



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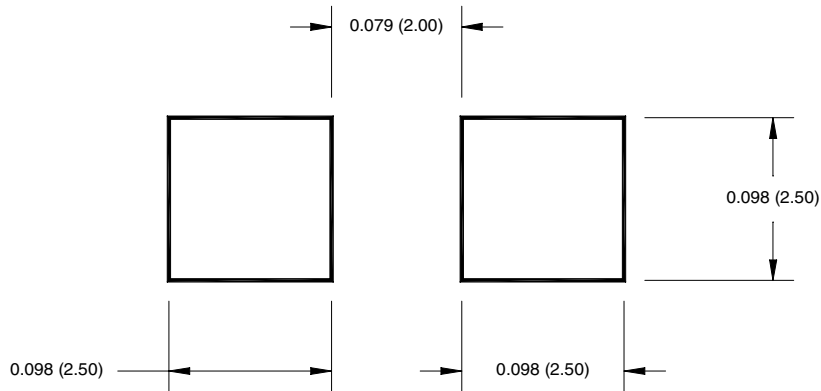
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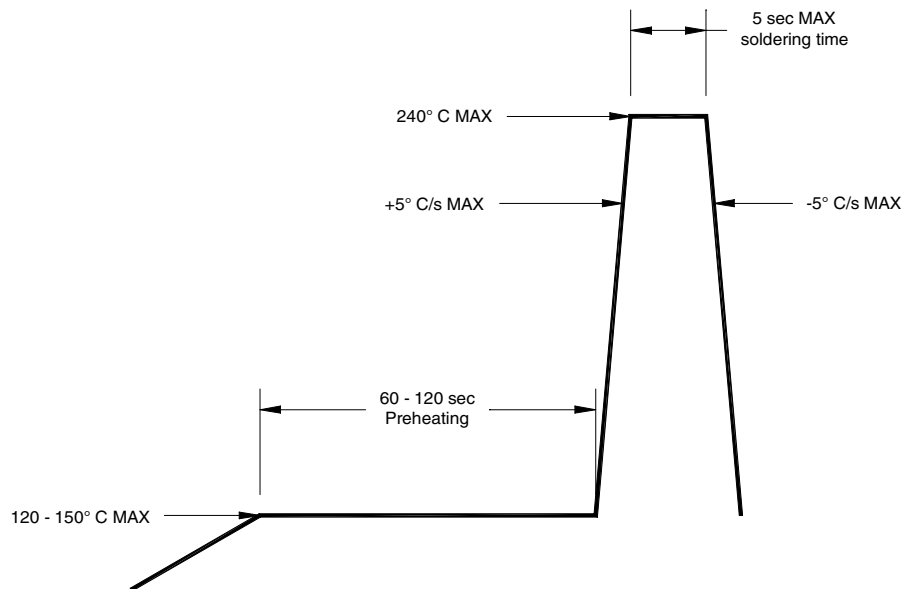
QTLP660C-IG True Green

QTLP660C-IB Blue

RECOMMENDED PRINTED CIRCUIT BOARD PATTERN



RECOMMENDED IR REFLOW SOLDERING PROFILE



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QTLP660C-IG True Green

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